WEST Search History

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DATE: Monday, September 20, 2004

Hide?	Set Name	Query	Hit Count
		DB=USPT,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR	
☐	L32	(digital adj camera) same battery same ((updat$4 or reset$4) near5 (clock or tim$4))	4
☐	L31	(digital adj camera) same (remov$4 near5 battery) same ((updat$4 or reset$4) near5 (clock or tim$4))	1
☐	L30	l1 same (real adj time adj clock)	4
☐	L29	L27 same (read$4 near5 (clock or tim$4))	0
☐	L28	L27 same (read$4 near3 (clock or tim$4))	0
☐	L27	l1 same download$4	271
☐	L26	L25 same computer	1
☐	L25	L24 same digital$4	13
☐	L24	(indicat$4 or denot$4 or display$4) near5 (record$4 near2 time) near5 (camera or (recording adj apparatus))	104
☐	L23	L2 same (reference near2 time)	2
☐	L22	L19 and (clock$4 or tim$4)	20
☐	L21	L19 same (clock$4 or tim$4)	0
☐	L20	L19 and l13	1
☐	L19	l1 same dock$4	37
☐	L18	l2 and L13	6
☐	L17	12 and L13	3011
☐	L16	l1.ab. and L13	10
☐	L15	l1.clm. and L13	12
☐	L14	l1 and L13	84
☐	L13	l10 or l11 or L12	3459
☐	L12	713/500,502,600.ccls.	1532
☐	L11	348/207.99, 207.1, 207.11.ccls.	1808
☐	L10	399/37,59.ccls.	119
☐	L9	l1 and L8	8
☐	L8	((provid$4 or generat$4) near5 (time near3 reference))	6960
☐	L7	((provid$4 or generat$4) near5 (time near2 reference))	4944
☐	L6	L5 same battery	1
☐	L5	(digital adj camera) with (real adj time adj clock)	12

☐	L4	L2 same (record$4 near5 time)	7
☐	L3	L2 same (record$4 near2 time)	2
☐	L2	L1 same (real adj time)	106
☐	L1	computer same (digital adj camera)	8533

END OF SEARCH HISTORY

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L32: Entry 2 of 4 File: JPAB Aug 15, 2003

DOCUMENT-IDENTIFIER: JP 2003230044 A
TITLE: DIGITAL CAMERA AND CHARGER FOR DIGITAL CAMERA

Abstract Text (2):
SOLUTION: The digital camera incorporates a CPU 23 operated by using a multiple frequency of a clock period for an original clock source and employing an internal timer to generate an interruption signal in the unit of one second. The charger 40 has: a real time clock (RTC) IC 25; a vibrator for clock 26; a small-sized secondary battery 29 for backing up the operation of the RTC IC; and a time setting means for the RTC IC. In a digital camera main body 50, when the digital camera is inserted to the charger 40 for charging a secondary battery 28, the RTC IC 25 updates time, and when the digital camera is removed from the charger 40, a CPU 13 built in the digital camera main body 50 updates time by using the secondary battery 28 for the power supply.

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L32: Entry 1 of 4 File: USPT Oct 17, 2000

DOCUMENT-IDENTIFIER: US 6134606 A
TITLE: System/method for controlling parameters in hand-held digital camera with selectable parameter scripts, and with command for retrieving camera capabilities and associated permissible parameter values

Brief Summary Text (7):
Some conventional imaging systems have adjustable operating parameters which are not retained after a system powerdown occurs. In portable imaging systems typically powered by batteries (for example, digital cameras), the system must remain constantly powered to retain current parameter settings (for example, an exposure setting). A system user must therefore risk battery failure at an inopportune moment, or repeatedly reset the desired operating parameters each time the imaging system is powered up.

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L23: Entry 1 of 2 File: USPT Jun 1, 2004

DOCUMENT-IDENTIFIER: US 6742707 B1
TITLE: METHOD OF SPECKLE-NOISE PATTERN REDUCTION AND APPARATUS THEREFOR BASED ON REDUCING THE SPATIAL-COHERENCE OF THE PLANAR LASER ILLUMINATION BEAM BEFORE THE BEAM ILLUMINATES THE TARGET OBJECT BY APPLYING SPATIAL PHASE SHIFTING TECHNIQUES DURING THE TRANSMISSION OF THE PLIB THERETOWARDS

Detailed Description Text (327):
As indicated at Block P, the camera control computer uses the package time stamp (nT) contained in the data set being currently processed by the camera control computer, as well as the package velocity (V.sub.b) determined at Block J, to determine the "Start Time" of Image Frame Capture (STIC). The reference time is established by the package time stamp (nT). The Start Time when the image frame capture should begin is measured from the reference time, and is determined by (1) predetermining the distance .DELTA.z measured between (i) the local coordinate Preference frame embedded in the LDIP subsystem and (ii) the local coordinate reference frame embedded within the Auto-Focus/Auto-Zoom Camera Subsystem, and dividing this predetermined (constant) distance measure by the package velocity (V.sub.b) determined at Block J. Then at Block Q, the camera control computer uses the Start Time of Image Frame Capture determined at Block P to generate a command for starting image frame capture, and uses the pixel indices (i,j) determined at Block 0 to generate commands for cropping the corresponding slice (i.e. section) of the region of interest in the image to be or being captured and buffered in the Image Buffer within the IFD Subsystem (i.e. Auto-Focus/Auto-Zoom Digital Camera Subsystem). Then at Block R, these real-time "image-cropping" commands are transmitted to the Auto-Focus/Auto-Zoom Digital Camera Subsystem, and the control process returns to Block A to begin processing another incoming data set received from the Real-Time Package Height Profiling and Edge Detection Processing Module. This inventive control operation reduces the transmission of image pixels to the bar code symbol decoder and/or OCR processor which do not contain information about the identity, origin and/or destination of the package moving along the conveyor belt.

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L25: Entry 3 of 13 File: USPT May 1, 2001

DOCUMENT-IDENTIFIER: US 6226449 B1
TITLE: Apparatus for recording and reproducing digital image and speech

CLAIMS:

4. A digital camera according to claim 1, wherein said recording time data indicates recording start date and recording start time.

12. A digital camera according to claim 1, wherein said display displays said mark and said recording time corresponding to each displaying mark on same row as graphic and literary notation.

13. A digital camera according to claim 2, wherein said display displays said image and said mark and said recording time corresponding to each displaying mark on same row as graphic and literary notation.

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L20: Entry 1 of 1 File: USPT Mar 30, 2004

DOCUMENT-IDENTIFIER: US 6715003 B1
TITLE: Digital camera and method for communicating digital image and at least one address image stored in the camera to a remotely located service provider

Detailed Description Text (14):
In another alternative embodiment, the CPU 210 is coupled to a hot-pluggable external interface located in or on the camera body 102. The hot-pluggable external interface enables the digital camera 100 to be connected to a docking station whereby the digital camera may communicate data and images to external computing devices, such as a personal computer.

Current US Cross Reference Classification (1):
348/207.99

Issued US Cross Reference Classification (1):
348/207.99

Field of Search SubClasses (3):
207.99;207.1;207.2;211.1;211.2;211.3;231.1;231.2;333

Field of Search Class/SubClass (8):
348/207.99

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L18: Entry 2 of 6 File: USPT Apr 20, 2004

DOCUMENT-IDENTIFIER: US 6724974 B2
TITLE: Image data management system

Detailed Description Text (5):
FIG. 1 shows the configuration of an image data management system. The image data management system comprises an image data management device and a digital camera. The image data management device comprises a personal computer 100 provided with a CPU (central processing unit) 9. This personal computer 100 further has a hard disk 11 that is a fixed recording medium for storing data. The personal computer 100 is further provided with a magneto-optical disk drive 13 for writing/reading data on/from a magneto-optical disk 13a which is a removable information recording medium. The personal computer 100 is further provided with a real-time clock 15 that gives date and time information and a USB (Universal Serial Bus) interface 17 for exchanging data with external devices. The personal computer 100 is connected with input devices 19 such as a keyboard and a mouse and with a display device 50. The personal computer 100 may also be configured to be capable of writing/reading data on/from a CD-ROM, a floppy disk or other information recording medium, in addition to the magneto-optical disk 13a.

Field of Search SubClasses (2):
231;232;233;907;207.1

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L9: Entry 1 of 8 File: USPT Feb 3, 2004

DOCUMENT-IDENTIFIER: US 6687467 B2
TITLE: Apparatus and method of controlling supply of developing agent to developer

Brief Summary Text (2):
The present invention relates to an apparatus for controlling the supply of developing agent to a developer. Particularly, this invention relates to an apparatus for controlling the supply of developing agent to a developer used in an image forming apparatus such as a plain paper color copy machine and a printer, for printing data transferred from an image-data supplying device such as a personal computer and a digital camera, on plain papers or OHP sheets.

Detailed Description Text (34):
Once printing-rate data per unit of time is gained, as discussed above, a toner amount controller 40 determines whether the toner density and charged amount are enough at this printing rate per unit of time. In detail, a comparator 41 compares the obtained printing rate per unit of time and a reference level stored in a table 42 to generate a control signal to a pixel-number variable controller 43 in accordance with a comparison result as to whether the printing rate is higher (or equal to) or lower than the reference level. For example, the comparator 41 sends a toner high-density signal to a toner forcible-supply controller 44 when determined that the charged amount of the developing agent is large due to low toner density in the developers 6 to 9 but relatively much carriers, whereas sends a toner low-density signal to a toner forcible-consumption controller 45 when the charged amount of the developing agent is small due to high toner density in the developers but relatively few carriers, under comparison of the output of the pixel-number per-unit-of-driving-time calculator 38 with a reference value stored in the table 42.

L9: Entry 3 of 8 File: USPT Apr 1, 2003

DOCUMENT-IDENTIFIER: US 6542183 B1
TITLE: Event recording apparatus

Abstract Text (1):
The invention provides a system for recording and displaying a time sequential scene on a computer (16). The digital camera (12) transmits a sequence of digital image frames to the timer (14) representative of the image of a body passing a plane in space. Each frame represents a line object (18) of the body, thus forming a fractional part of the scene. Once the frame reaches the image timer (14), it is digitally marked with a time reference (34) and buffered into a block of information. The main control computer (16) stores blocks of information from the image timer (14) for a variety of processing and features available to the user. The invention also provides a selected memory (36), preferably a virtual memory subsystem, or hard-disc drive. Preferred constructions for adjusting camera pixel processing of light values, time-marking the images, creating color palettes for interactive viewing of color images, and video data coding to accommodate the high volume of line image data are described.

Brief Summary Text (17):
The invention features, in one aspect, a system for recording and displaying a time sequential scene of bodies moving across a plane in space. The system includes at least one digital camera which views and images a line object in the plane of interest. The camera time-sequentially captures the line object by imaging it onto an array of detector elements and converts the sampled signal into a digital image, or frame, of the line object. Each digital image frame uniquely represents a slice of the moving scene at a moment in time. The system also includes an image timer, with a timer processor, that responds to a preselected digital value from the camera and marks each frame with a digital time reference using a preselected number of bytes within the frame information. The image timer may also store the digital frames from the camera in an internal buffer. The system further includes a main control computer having an internal memory, a user console, and a graphics display monitor. The computer stores the frames from the image timer buffer as blocks of information in its internal memory, via an associated software pointer, and selectively displays a portion of the stored frames as a time-sequential scene on the monitor. A user at the computer console can command a variety of functions provided by the invention to manipulate and analyze the captured scene, most particularly to display any portion of the scene of bodies moving across the plane and access an associated time for any frame within.

Brief Summary Text (19):
In other aspects, the digital camera can include a line scan charge coupled device which forms the array of detector elements. The camera can also include a greyscale gain controller to adjust the digital output signal according to a preselected gain level, preferably selectable at the main control computer, and, preferably, to a gain level corresponding to the digital values in the captured frames. The gain controller can function in a real-time fashion by adjusting the greyscale gain applied to each frame as captured by the camera during operation of the invention. The camera is completely computer controlled from a remote location. This computer control, which is achieved by passing signals along the coaxial cable, allows remote control of focus, zoom, pan and all other camera functions.

Brief Summary Text (27):
In yet another aspect, the invention can include a plurality of digital cameras, each with an associated buffer within the image timer, to independently capture a sequence of digital image frames. Thus multiple scenes are generated, preferably of a view containing substantially the same line object, for display on the computer. At least two scenes can be shown simultaneously on a single monitor from two separate cameras in both a real-time display or from previously recorded segments. In another aspect, one or more additional computers are installed in communication with the virtual memory subsystem to access and separately display and manipulate data captured by any one of the connected cameras. Thus, a second user can analyze previously recorded motion segments while a first user concentrates on a current motion event.

Brief Summary Text (28):
The digital camera and image timer each have associated processing CPUs which can selectively compress data before transmission along a signal line. For example, the digital camera can reduce the bandwidth requirements of the signal line or cabling between it and the image timer by commanding a first compression on the digital data transmitted from the camera. The image timer can reduce the bandwidth requirements of the cabling or signal line between it and the main control computer by commanding a second compression on the data transmitted between the two using a similar compression scheme.

Detailed Description Text (2):
FIG. 1 illustrates a system 10 constructed in accordance with the invention for recording and displaying a sequence of bodies crossing a plane in space. The system includes a digital camera 12, an image timer 14, and a main control computer 16. With internal optics 15, the camera 12 views and images the line object 18 onto an array of detector elements 20, preferably a Line Scan Charge Coupled Device (LS-CCD). A camera processor 22 time-sequentially samples the image at the detector elements 20 and amplifies and digitizes the output signal at the gain controller 24 and A/D converter 26, respectively. Each sampled image represents a frame of digital information at a unique moment in time.

Detailed Description Text (3):
Each digital image frame is transmitted along a signal line 28, preferably a coaxial cable, to the buffer memory 30 of the image timer 14. The timer processor 32 marks each frame as it enters the image timer 14 with a time reference, preferably generated by the timer clock 34, by storing the time reference within the digital information of the frame. Thus each digital image frame stored in the buffer contains both the stored digital representation of the line object 18 and a unique time associated with it. In a preferred embodiment, the time reference for each frame is indicative of the time the camera 12 captured the picture relative to the start of an external event.

Detailed Description Text (6):
In a preferred embodiment, commands to the digital camera 12 from the timer 14 and the main control computer 16 are transmitted within the signal line 28, which is a single coaxial cable. The coaxial cable 28 additionally acts as a power control line to supply energy to the camera 12 so that the camera 12 can operate without a remote power source.

Detailed Description Text (8):
Thus for example, FIG. 2 illustrates an object 60 which is in motion along the axis 56 of chart 50', a 90.degree. rotation of chart 50. The camera (not shown) is focused on the object 60 with a FOV substantially in the plane of axes 52 and 54. As each frame is captured, a portion of the object 60, i.e., a line object, is uniquely and spatially represented as a digital image frame. In FIG. 2, the successive line objects captured by the system are illustratively shown on the

object 60 as successive rectangles 62. For each of the line-objects 62, the digital camera 12 correspondingly generates a frame by sampling the image of the line object according to the number of detector elements within the array 20. That is, each of the line objects 62 is digitally segmented along its length (i.e., along the axis 52) into a digital image frame according to the sampling at the detector array 20 and transmitted at a moment in time to the image timer 14. In a real-time aspect, line object 64 represents the most recently captured frame and the remainder of the object 60 to the left of line object 64 has yet to be captured by the system. A scene or composite image of an object displayed on the computer 16 can look very much like the actual object passing by the FOV of the camera 12.

Detailed Description Text (13):
As discussed earlier, the most obvious use for a system constructed in accordance with the invention is directed towards race management. FIG. 4 illustrates a system 10 in a configuration suitable to capture the motion of bodies crossing the finish line of a race. The system 10 is illustratively shown next to the race course 80 with the digital camera 12 located to view the plane representative of the finish line. The image timer 14 receives digital image frames from the camera 12 at a frame rate selectable within the system 10 and marks each frame with its associated time reference. The main control computer 16 retrieves and stores the frames from the image timer 14 as blocks of information and displays the recorded scene on the display monitor 42. The computer 16 also allows a user, in the illustrated embodiment, to control certain features of the invention described below by the keyboard 44 and a computer mouse 45.

CLAIMS:

6. A system according to claim 1, further comprising a main control computer capable of communicating with said first digital camera and said second digital camera to process said first sequence of digital image frames and said second sequence of digital image frames.

14. A system according to claim 10, further comprising a main control computer capable of communicating with said digital camera to process said digital image frame.

20. A system according to claim 16, further comprising a main control computer capable of communicating with said digital camera to process said digital image frames.

25. A system according to claim 22, further comprising a main control computer capable of communicating with said first digital camera to process said first sequence of digital image frames.

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L3: Entry 1 of 2 File: EPAB Jul 17, 2003

DOCUMENT-IDENTIFIER: WO 3058969 A1
TITLE: ARRANGEMENT AND APPLICATION METHOD OF TELEMONITORING WITH CAMERAS

Abstract Text (1):
CHG DATE=20031008 STATUS=O>The invention relates to a telemonitoring connection arrangement and an application method using camera. The camera comprises at least one digital camera unit per client installed at a monitored site specified by the client. The invention is characterized in that the digital camera unit comprises a mobile picture recording device (10) suitable for automatically connecting to the Internet, the picture recording device (10) comprises a control unit (5), preferably a computer motherboard, and a mobile communication unit (8), the picture recording device (10) is in data transmission connection with a service provider unit (12) suitable for wireless transmission of at least approximately real time video recordings, and the service provider unit (12) is connected to client terminals (14) through the Internet (13).

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L3: Entry 2 of 2 File: DWPI Jul 24, 2003

DERWENT-ACC-NO: 2003-598447
DERWENT-WEEK: 200421

TITLE: Connection arrangement with camera for telemonitoring system, has digital camera unit at monitored site, which has housing, camera, battery, stepping motor and control circuit

Equivalent Abstract Text (2):
DETAILED DESCRIPTION - The digital camera unit includes a mobile picture recording device which is suitable for automatically connecting to the Internet. The picture recording unit comprises a control unit, preferably a computer motherboard, and a mobile communication unit. The picture recording device is in data transmission connection with a service provider unit suitable for wireless transmission of at least approximately real time video recordings. The service provider is connected to client terminals via the Internet.

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L9: Entry 7 of 8 File: USPT Aug 12, 1997

DOCUMENT-IDENTIFIER: US 5657077 A
TITLE: Event recording system with digital line camera

Abstract Text (1):
A system for recording and displaying a time-sequential scene on a computer comprising a digital camera, an image timer, and a main control computer. The digital camera transmits a sequence of digital image frames to the timer representative of the image of a body passing a plane in space. Each frame represents a line of the body, thus forming a fractional part of the scene. Once the frame reaches the image timer, it is digitally marked with a time reference and buffered into a block of information. The main control computer stores blocks of information from the image timer for a variety of processing and features available to the user. A compression system compresses a sequence of digital image frames for storage into a selected memory, preferably a virtual memory subsystem, or hard-disc drive.

Brief Summary Text (14):
The invention features, in one aspect, a system for recording and displaying a time sequential scene of bodies moving across a plane in space. The system includes at least one digital camera which views and images a line object in the plane of interest. The camera time-sequentially captures the line object by imaging it onto an array of detector elements and converts the sampled signal into a digital image, or frame, of the line object. Each digital image frame uniquely represents a slice of the moving scene at a moment in time. The system also includes an image timer, with a timer processor, that responds to a preselected digital value from the camera and marks each frame with a digital time reference using a preselected number of bytes within the frame information. The image timer may also store the digital frames from the camera in an internal buffer. The system further includes a main control computer having an internal memory, a user console, and a graphics display monitor. The computer stores the frames from the image timer buffer as blocks of information in its internal memory, via an associated software pointer, and selectively displays a portion of the stored frames as a time-sequential scene on the monitor. A user at the computer console can command a variety of functions provided by the invention to manipulate and analyze the captured scene, most particularly to display any portion of the scene of bodies moving across the plane and access an associated time for any frame within.

Brief Summary Text (16):
In other aspects, the digital camera can include a line scan charge coupled device which forms the array of detector elements. The camera can also include a greyscale gain controller to adjust the digital output signal according to a preselected gain level, preferably selectable at the main control computer, and, preferably, to a gain level corresponding to the digital values in the captured frames. The gain controller can function in a real-time fashion by adjusting the greyscale gain applied to each frame as captured by the camera during operation of the invention. The camera is completely computer controlled from a remote location. This computer control, which is achieved by passing signals along the coaxial cable, allows remote control of focus, zoom, pan and all other camera functions.

Brief Summary Text (24):

In yet another aspect, the invention can include a plurality of digital cameras, each with an associated buffer within the image timer, to independently capture a sequence of digital image frames. Thus multiple scenes are generated, preferably of a view containing substantially the same line object, for display on the computer. At least two scenes can be shown simultaneously on a single monitor from two separate cameras in both a real-time display or from previously recorded segments. In another aspect, one or more additional computers are installed in communication with the virtual memory subsystem to access and separately display and manipulate data captured by any one of the connected cameras. Thus, a second user can analyze previously recorded motion segments while a first user concentrates on a current motion event.

Brief Summary Text (25):
The digital camera and image timer each have associated processing CPUs which can selectively compress data before transmission along a signal line. For example, the digital camera can reduce the bandwidth requirements of the signal line or cabling between it and the image timer by commanding a first compression on the digital data transmitted from the camera. The image timer can reduce the bandwidth requirements of the cabling or signal line between it and the main control computer by commanding a second compression on the data transmitted between the two using a similar compression scheme.

Detailed Description Text (2):
FIG. 1 illustrates a system 10 constructed in accordance with the invention for recording and displaying a sequence of bodies crossing a plane in space. The system includes a digital camera 12, an image timer 14, and a main control computer 16. With internal optics 15, the camera 12 views and images the line object 18 onto an array of detector elements 20, preferably a Line Scan Charge Coupled Device (LS-CCD). A camera processor 22 time-sequentially samples the image at the detector elements 20 and amplifies and digitizes the output signal at the gain controller 24 and A/D converter 26, respectively. Each sampled image represents a frame of digital information at a unique moment in time.

Detailed Description Text (3):
Each digital image frame is transmitted along a signal line 28, preferably a coaxial cable, to the buffer memory 30 of the image timer 14. The timer processor 32 marks each frame as it enters the image timer 14 with a time reference, preferably generated by the timer clock 34, by storing the time reference within the digital information of the frame. Thus each digital image frame stored in the buffer contains both the stored digital representation of the line object 18 and a unique time associated with it. In a preferred embodiment, the time reference for each frame is indicative of the time the camera 12 captured the picture relative to the start of an external event.

Detailed Description Text (6):
In a preferred embodiment, commands to the digital camera 12 from the timer 14 and the main control computer 16 are transmitted within the signal line 28, which is a single coaxial cable. The coaxial cable 28 additionally acts as a power control line to supply energy to the camera 12 so that the camera 12 can operate without a remote power source.

Detailed Description Text (8):
Thus for example, FIG. 2 illustrates an object 60 which is in motion along the axis 56 of chart 50', a 90.degree. rotation of chart 50. The camera (not shown) is focused on the object 60 with a FOV substantially in the plane of axes 52 and 54. As each frame is captured, a portion of the object 60, i.e., a line object, is uniquely and spatially represented as a digital image frame. In FIG. 2, the successive line objects captured by the system are illustratively shown on the object 60 as successive rectangles 62. For each of the line-objects 62, the digital camera 12 correspondingly generates a frame by sampling the image of the line

object according to the number of detector elements within the array 20. That is, each of the line objects 62 is digitally segmented along its length (i.e., along the axis 52) into a digital image frame according to the sampling at the detector array 20 and transmitted at a moment in time to the image timer 14. In a real-time aspect, line object 64 represents the most recently captured frame and the remainder of the object 60 to the left of line object 64 has yet to be captured by the system. A scene or composite image of an object displayed on the computer 16 can look very much like the actual object passing by the FOV of the camera 12.

Detailed Description Text (13):
As discussed earlier, the most obvious use for a system constructed in accordance with the invention is directed towards race management. FIG. 4 illustrates a system 10 in a configuration suitable to capture the motion of bodies crossing the finish line of a race. The system 10 is illustratively shown next to the race course 80 with the digital camera 12 located to view the plane representative of the finish line. The image timer 14 receives digital image frames from the camera 12 at a frame rate selectable within the system 10 and marks each frame with its associated time reference. The main control computer 16 retrieves and stores the frames from the image timer 14 as blocks of information and displays the recorded scene on the display monitor 42. The computer 16 also allows a user, in the illustrated embodiment, to control certain features of the invention described below by the keyboard 44 and a computer mouse 45.

CLAIMS:

1. A system for recording and displaying a time sequence of bodies crossing a plane, comprising:

A. a digital camera which generates a sequence of digital image frames, each frame of said sequence representing light values of pixels from a line object that is captured by said camera at a moment in time and imaged onto a linear array of detector elements, said digital camera producing an output signal comprising a plurality of digital words representative of said digital image frames;

B. an image timer, in communication with said digital camera, including a timer processing means which marks each frame of said sequence with a time reference indicative of said moment in time, said image timer further including a buffer adapted to store said digital image frames generated by said digital camera; and

C. a main control computer, in communication with said image timer and said digital camera, including an internal memory which stores said frames from said buffer as blocks of information, and a virtual memory subsystem in memory communication with said main control computer, said virtual memory subsystem being adapted for storage of said blocks of information, said main control computer further including a display monitor which displays a portion of said sequence as a time-sequential scene, said main control computer arranged for controlling the operation of said system and responding to commands input by a user wherein said user can selectively command the display of said time-sequential scene of said bodies crossing said plane.

28. The system of claim 1 further comprising a time identification means for providing at least one said time reference corresponding to a selected part of said portion, whereby said time reference is available to said user at said main control computer display.

33. A system for recording and displaying a time sequence of bodies crossing a plane, comprising:

A. a first digital camera which generates a first sequence of digital image frames, each frame of said first sequence representing a first line object that is captured

by said first digital camera at a first moment in time and imaged onto a first linear array of detector elements;

B. a second digital camera means which generates a second sequence of digital image frames, each frame of said second sequence representing a second line object that is captured by said second digital camera means at a second moment in time and imaged onto a second linear array of detector elements;

C. an image timer in communication with said first digital camera and with said second digital camera means, including a timer processing means which marks each frame of said first and second sequence of digital image frames with a time reference indicative of said first and second moments in time, said image timer further including a first buffer adapted to store said first sequence of digital data frames generated from said first digital camera, said image timer further including a second buffer adapted to store said second sequence of digital data frames generated from said second digital camera means; and

D. a main control computer in communication with said image timer, including an internal memory which stores the frames from said first and second buffers into blocks of information, and a virtual memory subsystem in memory communication with said main control computer, said virtual memory subsystem being adapted for storage of said blocks of information, said main control computer further including a display monitor, which displays a portion of said first and second sequence as a time-sequential scene, said main control computer arranged for controlling the operation of said system and responding to commands input by a user wherein said user can selectively command the display of said time-sequential scene of said bodies crossing said plane as captured by said first digital camera and said second digital camera means.

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L25: Entry 11 of 13 File: EPAB Jun 22, 1995

DOCUMENT-IDENTIFIER: WO 9516991 A1
TITLE: METHOD AND APPARATUS FOR DETERMINING ADDRESSES IN TIME ALONG A RECORDING TAPE

Abstract Text (1):
CHG DATE=20031112 STATUS=O>A system (10) for measuring an address in time between the beginning of a tape (34) and the current location of the tape wound around take up (38) and supply (36) reels. Rotational periods (40) of a reel are measured and stored at the origin of the tape and at the current location of the tape. A differential period of the rotation is determined based on the difference in periods from a start address and an end address divided by a number of revolutions (36) of the reel. Thus, a microprocessor (40) calculates a current address based on the stored periods and the differential period. A directory (66) can be created and used for searching a tape based on the above calculations. Further, the system measures the accuracy of such a digital clock using a video camera by comparing a recorded time to a time displayed by the camera.

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L30: Entry 3 of 4 File: USPT Sep 29, 1998

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TITLE: System for handling interrupts in a computer system using asic reset input line coupled to set of status circuits for presetting values in the status circuits

Detailed Description Text (3):
Referring now to FIG. 1, a block diagram is shown illustrating an overview representation of a computer system 100 used with the present invention. The function of interrupt register 125, as will be discussed in more detail below, is to receive and process interrupts generated by a variety of sources such as devices 160, without the need for complex addressing or loss of interrupting device status. Computer system 100 comprises a Central Processing Unit (CPU) 101, memory 155, operating system 135, application programs 150, interrupt handler (IH) 140, interrupt service routines (ISR) 145, devices 160, and an interrupt register 125, each coupled to a system bus 110. In the present invention, CPU 101 communicates with various computer system 100 elements 155, 160, and 125 using system bus 110 design techniques that are well known in the computer art. Address and data lines make up the system bus 110 and are used to facilitate this communication CPU 101 also communicates via an interrupt bus 120 with interrupt register 125. Devices 160 comprise user hardware such as printers, modems, and digital cameras as well as CPU specific hardware such as RTC's (Real Time Clocks) and Serial Communication Controllers. Communication also occurs between CPU 101 and the application programs 150. Application programs 150 can be software such as word-processors or graphics programs. The present invention may be used with individual or multiple simultaneously running application programs 150. In the case of multiple simultaneously running programs, the CPU 101 is considered to be running in a "multitasking environment." In a multitasking environment, if the application programs are each running individual software threads, the system may further be called "multithreaded."

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